CLAIMS

- 1. A system for built-in test for a GPS receiver comprising:
- 5 a system processor;
 - a radio frequency (RF) input coupled to said system processor by a first operational signal path; and
- a loop forward built-in test equipment (BITE) coupled to said system processor and to said RF input for providing an RF test signal to said RF input.
 - 2. The system of Claim 1, further comprising:
 - a data output port coupled to said system processor by a second operational signal path; and
- a loop backward built-in test equipment (BITE) coupled to said system processor and to said data output port for providing sampled output data to said system processor.
- The system of Claim 1, wherein said operational
 signal path comprises an L1 signal path and an L2 signal path.
 - 4. The system of Claim 1, wherein said loop forward BITE comprises a code generator for generating a test bit

sequence that emulates a set or subset of data in accordance with a GPS data message format.

- 5. The system of Claim 1, wherein said RF test signal is modulated using a code selected from the group consisting of pseudo M code, P code, and C/A code.
- 6. The system of Claim 1, wherein said first operational signal path comprises a Selective
 10 Availability/Anti-Spoof Module (SAASM).
 - 7. The system of Claim 1, wherein said loop forward BITE is coupled to said RF input by a directional coupler.
- 8. A GPS receiver comprising:
 an antenna input;

an analog processing block coupled to said antenna
input;

- a digital signal processor (DSP) coupled to said analog 20 processing block;
 - a system processor coupled to said DSP; and

- a loop forward built-in test equipment (BITE) coupled to said system processor and to said analog processing block for providing an RF test signal to said analog processing block.
- 9. The system of Claim 8, wherein said antenna input and said loop forward BITE are coupled to said analog processing block by a switch for selecting a signal from said antenna input or a signal from said loop forward BITE.
- 10. The system of Claim 8, wherein said loop forward BITE is coupled to said antenna input and said loop forward BITE are coupled to said analog processing block by a directional coupler.
- 15 11. The system of Claim 8, wherein said loop forward BITE comprises a code generator.
 - 12. The system of Claim 11, wherein said code generator is a field programmable gate array (FPGA).

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13. The system of Claim 11, further comprising an RF modulator for generating an RF carrier and modulating said carrier with a code generated by said code generator.

14. A method for performing built-in test (BIT) of a GPS receiver comprising:

generating a test data message within said GPS receiver;

generating a first RF carrier within said GPS receiver;

modulating said first RF carrier with said test data

message to produce a first RF test signal; and

coupling said first RF test signal to an RF input of

said GPS receiver.

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- 15. The method of Claim 14, further comprising:

 generating a second RF carrier within said GPS receiver;

 modulating said second RF carrier with said test data

 message to produce a second RF test signal; and

 coupling said second RF test signal to said RF input of said GPS receiver.
 - 16. The method of Claim 15, wherein said first RF carrier and said second RF carrier have the same frequency.

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17. The method of Claim 16, wherein said first RF carrier has a frequency that is different from the frequency of said second RF carrier.

18. The method of Claim 14, further comprising:

providing positioning data to an input/output (I/O)

block for formatting;

transmitting said data over an output data port;

sampling the transmitted data at said output data port;

and

comparing the transmitted data to the positioning data provided to the I/O block.

- 10 19. The method of Claim 18, wherein said positioning data is derived from a signal input to said RF input.
- 20. The method of Claim 18, wherein said positioning data is specifically generated for test purposes by a system processor.